

SafeWork SA



Snorkel safety

A guide to business owners
and workers



Government
of South Australia

SafeWork SA

Snorkel safety

A guide to business owners and workers

Strategies to help reduce the potential for snorkelling fatalities and injuries

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Introduction

Australia is world famous for its beautiful coastal and reef locations, with many visitors and locals wanting to safely snorkel to enjoy the wonders of ocean life. Australia's recreational snorkel operators offer a range of snorkelling activities for both beginners and the more experienced.

Each year approximately one million people go snorkelling in Australian waters. Approximately half are from Australia and most overseas snorkellers come from the United Kingdom, Japan and the USA. Chinese and Indian snorkeller numbers are also growing.

As with any recreational water activity, there are significant and serious risks associated with snorkelling. Sadly, each year on average five people die while snorkelling in Australian locations (that are considered to be workplaces). Many others receive serious injuries. The emotional and financial cost of these deaths and injuries to families, businesses and the tourism industry is immense.

This guide has been developed to help businesses better inform all workers involved in the dive and snorkelling industry of the risks associated with snorkelling and how their day-to-day activities contribute to the safety of all participants. It also outlines legal obligations in the snorkelling industry and identifies a number of strategies that will reduce the potential for incident and injury to snorkellers.

Who should read this guide?

This guide is for snorkelling workers, as well as business owners and managers. It will also be useful to businesses associated with recreational snorkelling, such as those who supply or hire snorkelling equipment.

SafeWork SA encourages all snorkelling businesses to use the information in this guide to support the training of their snorkelling workers. Workers should read this guide and discuss its application at their own workplaces.

Snorkelling workers may include:

- ✓ snorkelling supervisors
- ✓ dive instructors
- ✓ snorkelling guides
- ✓ lookouts
- ✓ vessel masters
- ✓ rescuers
- ✓ first aid providers
- ✓ other vessel crew

Snorkelling incidents in Australia

Examining data from snorkelling incidents identifies trends in the circumstances influencing them. Understanding these circumstances guides the development of prevention or minimisation strategies that focus on the highest risk participants and situations.

Between 2000 and 2011 there were 49 deaths in recreational snorkelling workplaces in Queensland alone.

Incident data indicates recreational snorkelling workplace fatalities most commonly involve:

- people with medical conditions, in particular those with cardiac conditions
- older people, predominantly males
- inexperienced snorkellers and swimmers of all ages and gender
- international visitors with little or no understanding of English.



Introduction

Significant findings

An analysis of past incidents shows that snorkellers involved in incidents often had pre-existing medical conditions that they failed to let the snorkelling workers who were supervising them know about.

In some cases, an autopsy has shown a significant medical condition of which the snorkeller was unaware. Many of these snorkellers did have common characteristics or behaviours to suggest they may be at risk, including being:

older

overweight

a smoker

nervous

a poor swimmer or low confidence in the open water



In the majority of fatalities, the snorkellers were **not using a flotation device**, teamed with a paired **buddy** or in a **guided group**. It was also found that most incidents were silent, with no obvious distress shown by the snorkeller.



In several cases the **lookout** was not the first person to realise that a snorkeller was in trouble. Rescues were sometimes **delayed** through inappropriate equipment and techniques to handle an unconscious person or remove them from the water, particularly when the person was **overweight**.



Poor environmental conditions contributed to incidents, most commonly rough surface conditions and currents. However several incidents occurred in very good conditions.

Analysis of past incidents also indicated **younger male snorkellers** who undertake **breath-hold diving** are at significant risk of hypoxic blackout.

Non-fatal injuries to snorkellers included near drownings, salt water aspiration, jellyfish stings and injuries caused by objects such as vessel propellers and boarding ladders.

What the law says

How is snorkelling defined?

Snorkelling involves the use of a mask, fins and a snorkel to explore the underwater environment. Most snorkellers swim at the surface although some will explore below the surface while holding their breath for short periods of time.

This guide does not address the risks for snorkelling in swimming pools, snorkelling for occupational purposes, spear fishing or competitive apnoea breath-hold diving.

The law and how it applies

In South Australia, the health and safety duties of persons conducting a business or undertaking, workers and others are described by the *Work Health and Safety Act 2012 (SA)* (WHS Act), the *Work Health and Safety Regulations 2012 (SA)* and associated codes of practice. Although the WHS Act encompasses the health and safety of others, such as customers whose health and safety may be affected by a work activity, it does not specifically address the risks of recreational snorkelling for customers as part of a business or undertaking.

The following legislation from Queensland may provide useful guidance for PCBUs even though it is not legally enforceable within South Australia:

- *Safety in Recreational Water Activities Act 2011* (SRWA Act)
- *Safety in Recreational Water Activities Regulation 2011*
- *Recreational Diving, Recreational Technical Diving and Snorkelling Code of Practice 2011*.

Business owners and their workers

When a business or an undertaking has not complied with its duties it may be held liable under the WHS Act, along with its officers (such as the business owner).

Workers may also be held personally liable if they have not shown reasonable care to:

- ✓ **take care of their own health and safety**
- ✓ **ensure their acts or omissions do not adversely affect the health and safety of people involved in the activity**
- ✓ **comply, so far as is reasonably practicable, with any reasonable instruction that is given by their employer.**

What the law says

CASE STUDY

Not all risks are easy to detect

A snorkeller died from a cardiac condition after completing a medical assessment form that stated there were no pre-existing medical conditions.

After the incident it was established that the snorkeller did not know about the heart disease.

How could this risk have been minimised?

The snorkeller was clearly identified as an older person and considerably overweight. These factors were not taken into consideration when workers assessed the participant and gave the all clear, based solely on the medical assessment form.

A proper assessment would have identified that the snorkeller was at risk due to age and weight, despite the information on the medical assessment form.

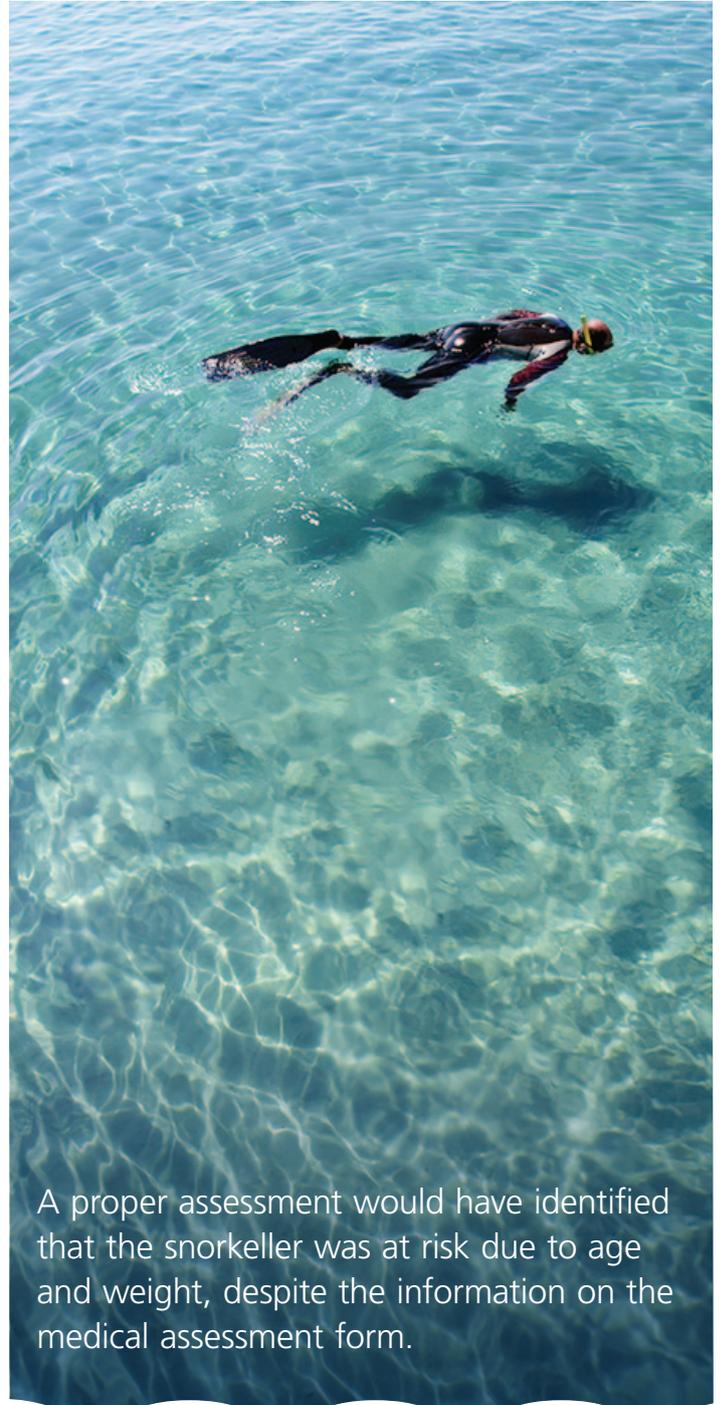
Identifying which snorkellers are at risk and providing them with additional care is a vital part of ensuring their safety. Control measures may include:

- ✓ increasing supervision
- ✓ reducing physical exertion in the water
- ✓ encouraging at-risk snorkellers to participate in guided snorkelling opportunities
- ✓ keeping at-risk snorkellers close to lookouts and supervisors
- ✓ snorkelling with a paired buddy
- ✓ using flotation devices.

For more information check out these sections of the guide:

[Assessing at-risk snorkellers](#)

[Example snorkeller assessment questionnaire](#)



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Putting the law into practice

Understanding your duties

When a new employee starts working with a snorkelling business, they will normally join a team where each worker has varying duties and responsibilities. Each worker must clearly understand their own duties, as well as those of their colleagues.

All snorkelling should be coordinated by a snorkelling supervisor. Other team members should have their duties and responsibilities detailed in their job description or a duty statement.

There are five specific roles to be undertaken at recreational snorkelling sites:

- snorkelling supervisor
- snorkelling guide (optional)
- lookout
- rescuer
- first aid provider.

In many situations these roles will be undertaken by one or more workers who each may perform one or more duties. For example, the snorkelling supervisor may share lookout duties with another member of the snorkelling team.

[Example duty statement for snorkelling supervisors](#)

[Example duty statement for lookout](#)

Most recreational snorkelling businesses have developed standard operating procedures (SOPs) to clearly detail how their business is to be conducted. Although the SOP should be based on the regulations and codes of practice, they are typically more detailed and specific to the needs of that business. SOPs are also called operations manuals or procedures manuals.

Important

Whenever snorkelling is being conducted you must clearly understand your own role and those of your colleagues.

If you do not understand or cannot undertake your role, advise your supervisor and ensure that your duties are being covered by another worker. If you are unable to perform your duties as required you must make this known to your supervisor or manager.

You are required by law to follow health and safety instructions given to you by your employer, as far as is reasonably practicable.

CASE STUDY

Younger snorkellers are also at risk

A young adult snorkeller died while extended breath-hold diving during snorkelling to take pictures of reef fish.

Their behaviour of snorkelling alone and diving deeply had been noted by both lookouts and dive instructors operating from the vessel.

No advice about the risks of breath-hold dives during snorkelling had been communicated and no additional supervision measures were provided. The snorkeller suffered hypoxic blackout during the ascent (shallow water blackout) and their body was recovered from the sea bed by passing divers.

Read more on [assessing at-risk snorkellers](#)

How could this have been prevented?

Workers should have identified the snorkeller as an at-risk participant due to their behaviour. Control measures could have included:

- ✓ using specifically coloured equipment or other markings so that the snorkeller was easier to supervise and monitor in the water
- ✓ arranging a buddy snorkeller so that the snorkeller was watched while underwater
- ✓ discussing the risks of breath-hold diving prior to snorkelling.

Putting the law into practice

Consultation and training

Snorkelling businesses must consult with their workers about risk management and any changes that may affect health and safety. During the consultation workers must be given a reasonable opportunity to express their views, raise matters and contribute to the decision-making process.

All snorkelling workers must be competent to undertake their designated duties. A competent person has acquired the knowledge and skills to carry out their duties through training, qualifications, experience or a combination of these.

Competency for new workers

New workers should provide their employer with evidence of their competence, including:

- copies of any current relevant certifications or qualifications
- evidence of their experience in snorkelling or related work, such as their resume or references.

There are a range of qualifications relevant to snorkelling workers, both in and outside of the vocational education and training (VET) system. However some of these are not specific to recreational snorkelling workplaces so additional in-house training may be required to ensure competence to undertake specified duties.

Consultation is an opportunity to resolve any concerns about work health and safety. It allows employees to speak up and share any issues or ideas they may have.

The importance of inductions

Snorkelling businesses must provide suitable and adequate information, training and instruction to their workers. This should start with an induction.

The induction should include a thorough explanation of the SOP and a demonstration of the knowledge and skills required to perform the work. Workers should have an opportunity to ask questions about anything they are unsure about and practice under supervision before working alone.

As a minimum, induction training should cover:

- relevant legislation
- the organisation of the snorkelling business
- consultation requirements
- duties and responsibilities
- standard operating procedures
- specific risks and controls associated with snorkelling clients and environment
- how to do the job safely for both snorkellers and workers
- emergency procedures
- safe use of plant and equipment, including all snorkelling and safety equipment
- health and safety consultation
- reporting hazards and incidents
- records required to be kept.



Appropriate qualifications for snorkelling workers could include:

Relevant VET courses

For example:

- Pool Lifeguard, including Supervise clients at an aquatic facility or environment.
- Advanced first aid.

Relevant qualifications from recreational dive training organisations (e.g. SSI, PADI)

For example:

- perform diver rescues
- supervise diving
- instruct diving and snorkelling.

Relevant qualifications from lifesaving associations

For example:

- Royal Life Saving Society Australia.
- Surf Life Saving Australia.

Putting the law into practice

Practical training and assessment

Training should be practical and assessment should be as realistic as possible, covering all operational variables.

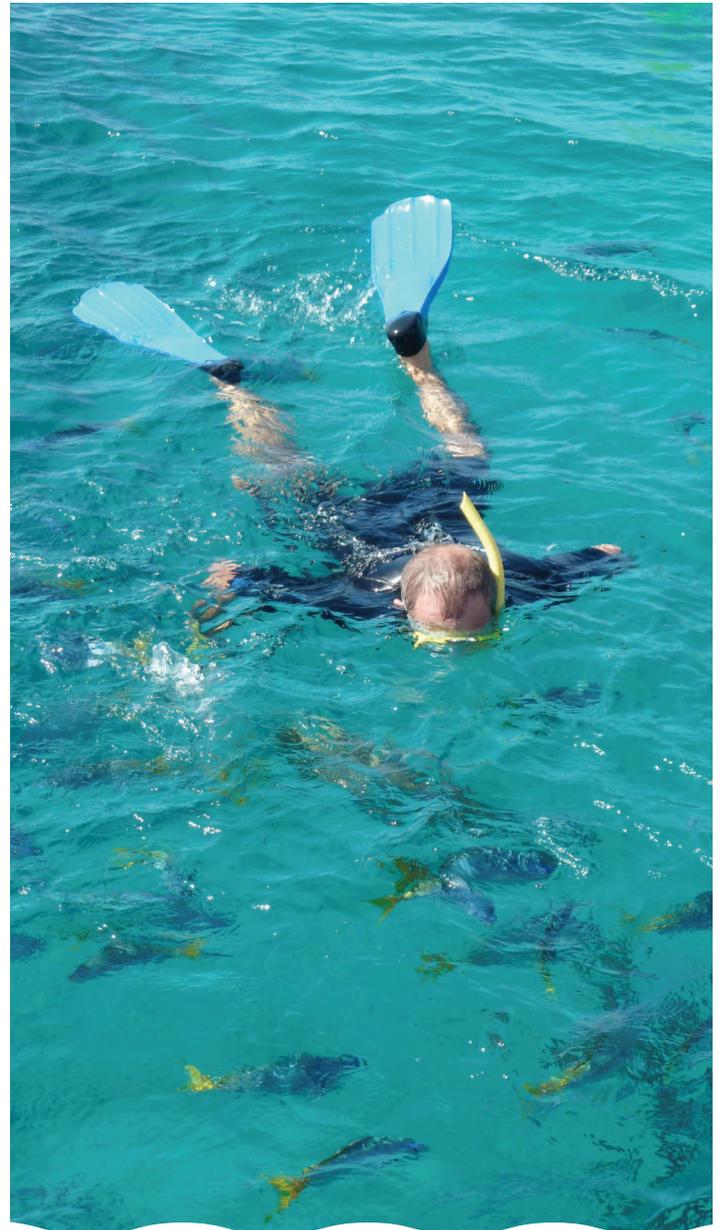
Practical training relevant to a worker's duties should include how to:

- assess and identify at-risk snorkellers
- perform an environmental assessment
- set up a snorkel site
- provide information to snorkellers
- demonstrate the use of snorkelling equipment
- fit equipment to snorkellers
- perform lookout duties, supervisor duties and guide duties
- conduct emergency procedures.

Snorkelling businesses should provide ongoing training and supervision of their workers to maintain and improve their competence. Emergency skills need to be practiced regularly and even experienced workers need their knowledge and skills reviewed.

Snorkelling businesses should ensure their workers conduct regular snorkeller rescue drills and check that snorkel briefings contain all of the relevant information and advice. These are opportunities to challenge and test workers' skills individually and as a group. Monitoring should be based on realistic scenarios reflecting the standard operating procedures of your business. They should be practical and varied from month to month.

Simple records of training and assessments should be kept and include names of all workers involved, the date of training, the subject of the training, and what assessment was undertaken.



**Induction and practical training should be assessed.
The following assessment tools are available in this guide:**

[Knowledge assessment tool](#)

[Lookout scanning techniques assessment tool](#)

Customer assessments and snorkelling sites

Assessing snorkelling customers

Before snorkellers enter the water they should be assessed to determine whether they may be at risk. This process is subjective and relies on the knowledge and skills of the snorkel worker.

The assessment is not designed to stop potential customers from participating in snorkelling activities. It helps to identify at-risk individuals so they can be given appropriate advice, equipment and supervision. Sometimes however, the best advice may be to avoid snorkelling on that occasion.

The assessment can be completed by:

- ✓ asking the participating group questions
- ✓ talking with snorkellers individually
- ✓ using an assessment form
- ✓ observing the group.

Determining at risk snorkellers

Identifying which customers are at risk and providing them with additional attention is a vital part of ensuring their safety.

Example questions to help determine whether a snorkeller is at risk include:

- Do you have any medical conditions?
- Are you currently taking any prescribed medication?
- Do you smoke?
- Are you nervous? (observe the candidate for outward signs of nervousness)
- Can you readily understand spoken and written advice in English?
- Have you snorkelled before?
- Can you swim well?

Snorkelling workers should observe and record whether any participants:

- are older or very young
- are overweight
- smoke
- appear to be in bad health (e.g. with respiratory problems or particularly unfit)
- exhibit stressed behaviour (e.g. appearing to be jumpy, hesitant, overly excited, fidgety or have shaking hands).

Some people, particularly older men, may be reluctant to acknowledge or discuss their concerns.

Remember, a successful assessment is one that encourages honest participation by customers. Be honest about the risks of snorkelling and respectful of snorkellers concerns and privacy.

Once you have identified any at risk snorkellers, make sure all members of the team know who they are and why they are at risk. If you use a snorkelling plan, record the names and details of at risk snorkellers as a reference during the day.



An assessment form is a simple way to gather information. See an example snorkeller assessment form and snorkel plan.

[Snorkeller assessment form](#)

[Snorkel plan](#)

Customer assessments and snorkelling sites

Controls for managing at-risk snorkellers include:

- using specifically coloured equipment or other markings so they can be easily supervised and monitored in the water
- encouraging them to take part in guided snorkelling trips
- keeping them close to lookouts and supervisors
- arranging buddy pairs and encouraging hand holding
- encouraging the use of flotation devices.



Briefing your snorkelling customers

From the time a snorkelling customer makes a booking until the moment they enter the water, there are opportunities to provide them with information and advice about safe snorkelling.

Most snorkelling operators and workers provide information and advice to snorkelling customers through a briefing, but this can be combined with:

- distributing brochures, signs and posters
- using illustrated charts, diagrams and site photographs



Key safety messages for recreational snorkellers

- ! **There are serious risks associated with certain medical conditions, especially cardiac conditions.**
- ! **Know your own ability and snorkel accordingly.**

Key safety messages for at-risk snorkellers

- ! **Use a flotation device to reduce your physical exertion in the water.**
- ! **Snorkel with a buddy or as a part of a guided tour.**
- ! **Stay close to supervising staff or other support and signal if help is required.**

It may not be necessary to cover all issues with every snorkeller. Separate briefings for more experienced snorkellers may be required.

Experienced snorkellers will rapidly tune out if they are being re-taught basic techniques and may then miss out on other important information, such as the risks of breath-hold diving.

Customer assessments and snorkelling sites

Briefing snorkellers from non-English speaking backgrounds

People from non-English speaking backgrounds are at risk if they cannot fully understand the advice they are given. The risks associated with water sports may also not be as well known to those from other countries as they usually are to Australians.

Ways to help non-English speaking snorkellers include:

- using workers who speak the appropriate language
- using tour guides to translate important messages
- using visual aids such as site photographs, diagrams or warning signs that do not require words
- using translated materials where possible
- creating short films with voiceovers or subtitles.

If you have any doubt that a snorkeller, whether English or non-English speaking, has understood all the advice and information you have provided, always consider them at risk.

Engaging your snorkellers

Information and advice is more effective if it is delivered in multiple formats that appeal to the participants' different senses.

Good briefings emphasise key points using words, visual displays and touch.

Follow up a briefing with an open meet-and-greet period during which customers who want to can discretely ask questions or discuss medical issues. This is also a good opportunity to identify at-risk snorkellers.

Differing techniques and approaches will be effective with different customers.

You will know if your briefing was successful if:

- ✓ you are asked questions
- ✓ people bring their concerns about their experience or medical conditions to your attention
- ✓ snorkellers are doing the things you have asked them to.

Customer assessments and snorkelling sites

Environmental assessment

Before snorkelling starts, assess the environmental conditions at the site and record this information on a snorkel plan. The snorkelling environment can include both natural and man-made risk factors.

The assessment should include:

- checking weather reports and tidal predictions
- checking the conditions on arrival or at anchor (e.g. in-water visibility, swell and currents causing vessel movement and safe entry/exit from the vessel)
- noting any changing conditions (e.g. identifying the possibility of jellyfish or deteriorating weather causing undue vessel movements).

Depending on the circumstances, less favourable environmental conditions may lead to:

- cancellation of the snorkelling trip
- changing snorkelling sites or times
- limiting snorkeller participation
- changing the snorkelling entry/exit location
- signalling to moving vessels
- providing additional supervision
- using flotation or lycra protection for all snorkellers
- providing additional advice and information to snorkellers.

Snorkel workers should remain aware of any relevant environmental conditions and if any changes are required to the standard operational procedure.



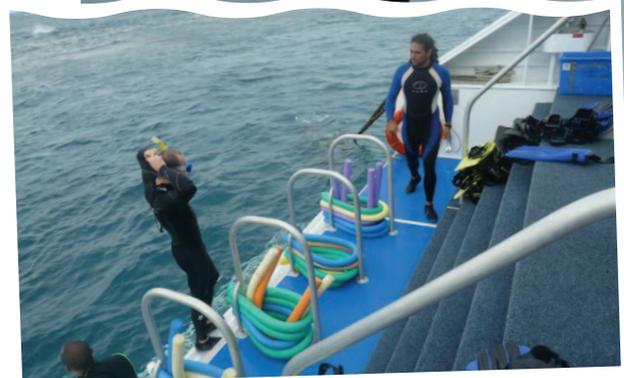
At-risk snorkellers are more likely to be affected by difficult environmental conditions.

Be especially aware when there are poor surface conditions or currents.

Snorkel site preparation

Prepare the site before snorkelling starts. This may include:

- checking entry and exit points are safe to use
- deploying markers, flags, lines and floats
- ensuring the lookout is in position and equipped to scan the snorkel site effectively
- providing a communication system (e.g. hand held radios, to allow the snorkel team to communicate easily)
- ensuring emergency equipment is available for immediate use, including first aid and resuscitation equipment, oxygen and any rescue equipment such as rescue tubes, tenders and lifting equipment.



During snorkelling activities

Snorkelling equipment

Equipment supplied to snorkellers should be the correct fit and of sufficient quality to perform effectively.

Factors to consider:

- Masks with a silicone skirt and self-draining snorkels remove some of the stress for inexperienced snorkellers.
- Carrying a range of optically adjusted masks helps snorkellers with poor vision.
- Carrying a range of mask styles caters for differing facial types.
- Carrying a full range of sizes avoids snorkellers having to wear tight wetsuits and flotation devices, which has factored in several incidents involving overweight snorkellers.

All equipment should be washed and checked daily to ensure it is in safe working condition. Particular attention should be given to snorkel lugs and drain valves, mask skirts and fin foot pockets.

Other equipment that may be provided includes:

- exposure suits, such as wetsuits or lycra suits for cooler water temperature, UV protection and protection from marine stings
- flotation devices
- moored float stations
- ropes and floats to form snorkel site boundaries and trails
- towed floats for snorkelling guides
- marker or warning flags to alert other vessels to snorkellers in the water
- a supply of spare parts
- petroleum jelly for moustaches to ensure an appropriate seal of the mask.

The benefits of using a flotation device

Flotation devices used for snorkelling include personal flotation devices (PFDs), non-standard swim jackets, boards, life rings and tubes, such as noodles. Generally all flotation devices can provide some support for snorkellers and minimise the stress of maintaining their position in the water. However a panicking snorkeller will receive better flotation support from a PFD than a noodle.

Personal flotation devices should comply with *Australian Standard AS4758–2008 Personal Flotation Devices*.

Fixed flotation such as moored float stations or boundaries and trails using ropes and floats can also be set up. Snorkel guides should always have a flotation device on hand that can be given to a tired or distressed snorkeller.

Not all at-risk snorkellers are prepared to use a flotation device. Snorkel workers should try to persuade these snorkellers to do so by demonstrating their use and advising that it will help them to relax in the water.

Colour as a control

Snorkelling equipment is usually available in bright colours. Using the same colour snorkels, fins or masks, or attaching coloured ribbons is a simple way to clearly identify and easily supervise at-risk snorkellers.



Personal flotation device

During snorkelling activities

The role of the snorkelling supervisor

The snorkelling supervisor is responsible for the safe conduct of the snorkelling activity.

They have an important role in communicating and coordinating between the snorkelling team members and customers. Usually they will provide briefings and identify any at-risk snorkellers.

They should be an experienced snorkeller and know the planned snorkel site well. At the site they must ensure that snorkelling only starts when the site is properly set up and supervisory workers are in position. The supervisor needs to coordinate their duties with other workers including vessel crew and dive teams.

The snorkelling supervisor can help snorkellers to select and fit their equipment and safely enter the water. They may also need to take action if participants are seen consuming alcohol, deliberately disobeying safety advice or showing off and taking part in dangerous behaviour.

Supervisors should recognise any developing risks, such as changing weather conditions, and take appropriate action.

The role of the snorkelling lookout

The lookout is a critical role, in charge of monitoring all snorkellers, detecting those in difficulty or distress and initiating emergency responses.

The lookout must be solely engaged in these duties whenever people are snorkelling unless:

- small groups of snorkellers (10 or less) are being directly supervised in the water by a guide and a risk assessment shows no lookout is required for supervision or rescue
- **or**
- the lookout is carrying out rescue or first aid duties and no other lookout is available.



The lookout is key to preventing and responding to snorkelling incidents.

Developing your scanning skills

A good lookout needs excellent scanning skills.

To be most effective, the lookout should:

- have an elevated and distraction free location, noting that distractions can be visual or audible, such as snorkellers asking questions
- wear brightly coloured or distinctive clothing so they are easily recognised
- have binoculars and polarised sunglasses that do not hinder peripheral vision
- move their head while scanning, not just their eyes
- scan using patterns and zones to cover the whole site at least once every 60 seconds
- change scanning patterns periodically
- look into the water, as well as on the surface
- focus on each snorkeller, checking them for movement or signs of distress
- give greater attention to at-risk snorkellers and environments, especially those that are down current or at the limits of the snorkelling area
- be aware of conditions that affect visibility such as glare, shadows and poor in-water visibility and change position to see into these areas if needed
- sit, stand and walk around while scanning, to include areas that might be hidden—for example down the sides of a vessel
- take breaks and rotate duties—all lookouts should have a break after a maximum of 60 minutes
- ensure relevant information is passed on to the new lookout when handing over lookout duties
- ensure they have had enough sleep and are well rested before working
- avoid overheating and dehydration in hot conditions by taking advantage of shade and regularly drinking water
- make sure they stay warm and comfortable in cold conditions
- avoid boredom and drowsiness by staying cool, moving around and rotating duties
- ensure they have effective UV protection.

During snorkelling activities

Testing scanning abilities

To test how effective a lookout is at scanning the snorkelling site, arrange for a snorkeller to simulate unconsciousness or place a small distinctive object, like a red tennis ball, in the snorkelling area. Then time how long it takes the lookout to notice. Responding in less than 10 seconds indicates excellent scanning. Taking more than 60 seconds to respond indicates their scanning is not effective and this should be addressed.

[Check out a practical example to test the lookout's scanning ability](#)

The role of a snorkelling guide

A snorkelling guide can provide in-water supervision for groups of snorkellers. Although a guide usually works with a lookout, when the group is 10 participants or less and an assessment of the risks has been undertaken, a snorkelling guide may be used instead of a lookout.

Using a snorkelling guide provides direct supervision of at-risk snorkellers and this should be encouraged whenever possible.



The snorkelling guide provides supervision to at-risk snorkellers

Practical example

The snorkelling supervisor spots that a snorkeller entering the water appears nervous. The snorkeller is the last to enter the water and appears hesitant.



- ✓ They advise the lookout to pay special attention to this snorkeller.
- ✓ If available, they may suggest that the snorkeller goes on a guided tour.
- ✓ They also advise the snorkeller to stay close to their buddy, use a flotation device and remain close to the entry and exit point.

Rescue and emergencies

The role of rescuers, first aid and oxygen providers

Workers who will be involved in a rescue or provide first aid and oxygen to an injured snorkeller may also have other roles, for example as a lookout. Each member of the team should understand their duties in an emergency and how emergency plans will be carried out.

The worker providing rescue, first aid and oxygen should hold a current diving first aid training qualification that includes emergency oxygen administration.

Oxygen equipment and levels should also be checked daily by someone who has received training to carry out the checks correctly.

First aid must be administered quickly and appropriately when treating a snorkelling injury.

First aid kits should be available at the snorkelling site and the contents should cater for the injuries that may occur.



The oxygen system should also be able to deliver oxygen concentration of as near as possible to 100 percent to a breathing person and should also facilitate oxygen enriched artificial ventilation of a non-breathing person. Sufficient oxygen should be provided taking into account the location of the snorkel site and access to medical facilities.

A risk assessment should be undertaken to determine if an Automatic External Defibrillator (AED) and trained operator should be available on the vessel.

Record details of any incidents or near misses and ensure these are passed on to supervisors immediately so they can be investigated and corrective actions taken where necessary.

Emergency plans and practising drills

For an emergency plan to be effective, everyone must understand their role and drills must be practised regularly. Real emergency responses have been hindered when snorkelling teams could not retrieve an injured snorkeller or were slow to action their missing snorkeller procedures.

Every rescue or emergency situation will be different so experience can only be gained by practising different rescue and emergency scenarios. Consider scenarios where the snorkeller is elderly or overweight or where rescues take place in poor conditions.

Delayed signs of injury or illness

Once snorkelling has finished at the site and all snorkellers have safely exited the water, continue to monitor them for any signs or symptoms of injury or illness.

Risk management

There are several risk areas specific to snorkelling that should be understood by all workers. Snorkelling businesses must ensure these risks, and any new ones, are identified and controlled. If you see anything that might be a hazard, report it to your supervisor immediately.



RISK: Ensuring no one is left behind

It is very important to count everyone on board a snorkelling vessel at the start of the day before departure, when changes to passenger numbers occur, and again before departure from any snorkelling site. Where possible, use active counts, such as roll calls or signature sheets, because they are more accurate than a head count.

Snorkelling businesses must develop and implement a legally compliant counting system and keep records of each count.

Counting requires diligence every time it is undertaken. New workers may be reluctant to challenge more experienced workers. If there is any doubt, repeat the count again and always cross-check with your co-workers.

[View the example snorkel plan](#)



RISK: Moving vessels

Snorkellers can be at serious risk from vessel or propeller strikes. These can be from the vessel they arrived in or from other vessels in the area.

Minimise or eliminate the risk of divers or snorkellers being injured or killed by moving vessels by:

- fitting propeller guards
- using buoys and markers to separate diving activity from vessels
- using flags and lights at night to indicate that snorkellers are present
- appointing lookouts to maintain watch and form part of the communication system
- ensuring that workers are familiar with snorkelling sites and able to navigate
- implementing safe systems of work.

Most incidents are from vessels operated by the snorkelling business. Where practicable you should guard outboard propellers, use skilled tender drivers and separate the snorkelling area from any moving vessels.



Risk management

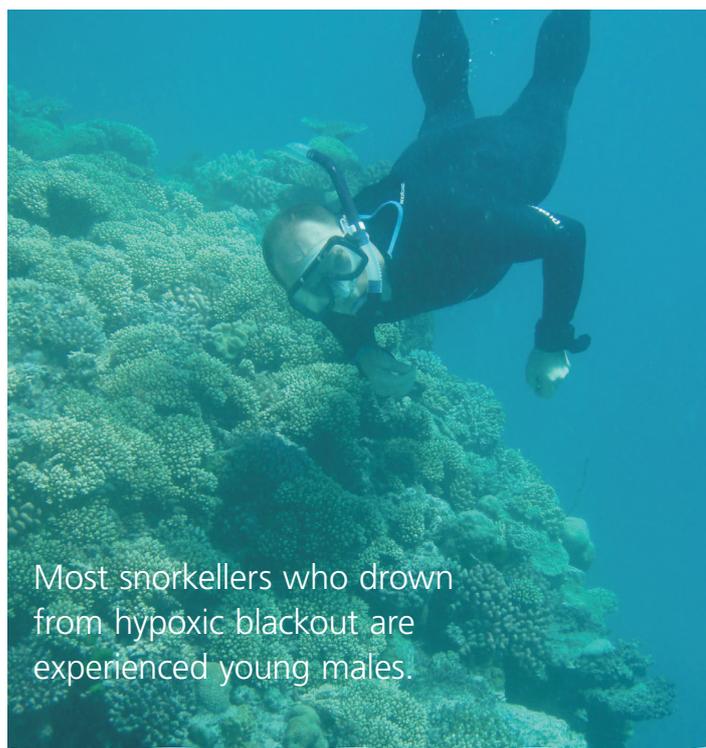


RISK: Hypoxic blackout (shallow water blackout)

Snorkellers who undertake extended breath-hold dives or hyperventilate before leaving the surface may be at risk from hypoxic blackout leading to drowning. During the briefing and assessment of snorkellers, identify any potential at-risk snorkellers.

WHSQ incident data suggests experienced young males are most at risk of hypoxic blackout. Warning signs that a snorkeller is planning on breath-hold diving include choosing to use their own snorkelling equipment, requests to use weights, and questions about water depths and how far they can snorkel away from supervision.

Give advice about the risk of hypoxic blackout to these snorkellers and ensure they are in buddy pairs using strict 'one up, one down' supervision arrangements. They should also be under the close supervision of a snorkelling guide or lookout.



Most snorkellers who drown from hypoxic blackout are experienced young males.



RISK: Marine life

Snorkellers may be injured by a variety of marine creatures including the blue-ringed octopus, which can be fatal. Snorkellers should immediately exit the water if dangerous marine predators, such as some larger shark species, are detected.

Information on first aid measures can be found on the Australian Resuscitation Council website
www.resus.org.au

All snorkelling workers should become familiar with local marine life hazards and treatments.

Risk management

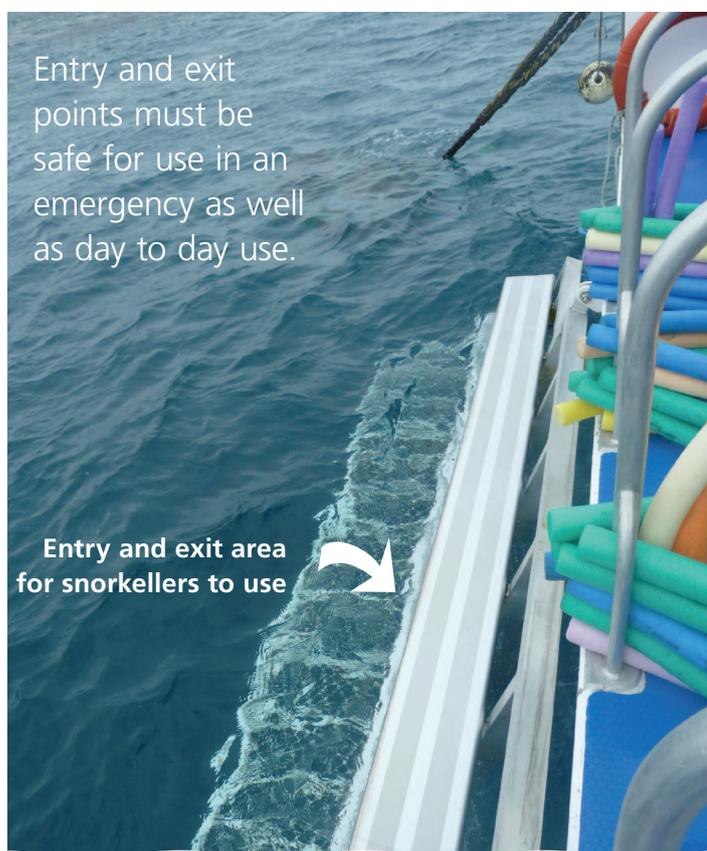


RISK: Entry and exit from the water

Snorkellers are at risk of sustaining serious injuries at entry and exit points in several ways. These include injuries caused by the vessel itself, platforms and boarding ladders, waves, currents and rocks.

Serious injuries have occurred when rolling vessels and ladders have struck snorkellers. Improperly secured platforms and ladders have caused crush injuries and in some cases amputation.

Rescues have been delayed from exit points that have not allowed the easy transfer of an injured or unconscious snorkeller. Even well-designed and maintained entry and exit points may need a team member there to assist customers if the sea is rough.



RISK: Panic and stress

Many snorkellers have little or no previous snorkelling experience and may not be strong swimmers. Despite being willing to try snorkelling, they are susceptible to panic which can make any pre-existing medical conditions worse and can lead to drowning.

During the snorkelling assessment and while snorkellers put on their equipment and enter the water, watch for signs of stress such as anyone being jumpy, hesitant, overly excited, fidgety or having shaking hands.

Ensure the lookout and any guides are aware of at-risk snorkellers. Stress can be reduced by close supervision, the use of flotation devices, guided tours and snorkelling in good environmental conditions.

Panic and stress increase the likelihood of both medical and drowning incidents.

Watch for behaviours that indicate developing panic or stress in snorkellers.



Helpful publications and websites

Further information

Visit safework.sa.gov.au or call us on 1300 365 255 for more information.

Other publications and websites

Divers Alert Network (DAN Asia Pacific)

Information includes snorkelling safety tips, first aid for diving, jellyfish first aid and more.

Australian Resuscitation Council

Information on first aid measures.

Royal Life Saving Society Australia

Fact sheets on supervision, resuscitation, water awareness and safety.

Surf Life Saving Australia

Information on beach and coastal safety.

Example standard operating procedure and safety management system

Handy templates and resources

This section contains a range of templates which you may find helpful. You can either print the templates and use them as they are, or adjust them to suit your own workplace.

EXAMPLE DUTY STATEMENT

Snorkelling supervisor

Responsible for planning assessments and the conduct of snorkelling operations on site.

[Go to example](#)

PRACTICAL ASSESSMENT

For the snorkeller

Assessing the current level of fitness and snorkelling experience of your customers.

[Go to example](#)

EXAMPLE DUTY STATEMENT

The snorkelling lookout

Responsible for scanning the site while snorkellers are in the water, monitoring the location, identifying people in distress and initiating a rescue.

[Go to example](#)

PRACTICAL ASSESSMENT

Lookout scanning techniques

This example is based on the content of this guide. The assessment should be modified to suit the needs of the particular snorkelling workplace and the contents of any standard operating procedures.

[Go to example](#)

SNORKEL PLAN

Completed by the snorkelling supervisor, the plan should remain at the snorkelling site and then be returned for review and archiving at the business premises.

[Go to example](#)

ASSESSMENT RESULTS

Lookout scanning techniques

Assessment results template to provide constructive feedback to your lookout.

[Go to example](#)

ASSESSMENT

For the snorkel worker

This example is based on the content of this guide. The assessment should be modified to suit the needs of the particular snorkelling workplace and the contents of any standard operating procedures.

[Go to example](#)

DUTY STATEMENT

Snorkelling supervisor

The snorkelling supervisor is responsible for planning, assessments and the conduct of snorkelling operations on site.

They report to the operations manager.

Competency

The snorkelling supervisor must:

- be at least 18 years old
- maintain a level of fitness so that they are able to undertake their duties without risk to their own or anyone else's health and safety
- have significant snorkelling experience at all designated sites and be able to assess changing marine hazards
- have significant personal snorkelling experience and be able to assess snorkeller competence
- be able to effectively instruct and advise snorkellers
- be qualified to rescue a snorkeller
- be currently qualified to give first aid, including CPR and administer oxygen, to a breathing and non-breathing person.

Duties and responsibilities

The snorkelling supervisor is responsible for ensuring the implementation of control measures delegated to that position, as detailed in the standard operating procedures.

Duties and responsibilities include:

- to work as a team leader, supervise and consult with other snorkelling workers
- to assist other workers as required, including lookout, rescue and first aid
- ensure prospective snorkellers complete any required documentation, such as medical statements
- assess the competence and fitness of prospective snorkellers
- complete a snorkel plan prior to snorkelling commencing
- ensure there are sufficient people to be guides, lookouts, rescuers and first aid personnel
- ensure snorkellers are appropriately equipped
- ensure equipment, plans and personnel are available for snorkelling emergencies
- conduct an environmental assessment of conditions at the snorkelling site
- cancel or modify the conduct of snorkelling where existing control measures mean it cannot be conducted safely
- remain at the snorkelling site to control the overall snorkelling operation and ensure all control measures are implemented
- instruct, train and advise snorkellers, including ensuring all snorkellers are given a pre-snorkel briefing
- enter the water to instruct, guide and supervise from that position if required
- ensure snorkellers are arranged in buddy pairs
- arrange appropriately sized guided groups as required
- ensure a head count is conducted as required
- ensure all incidents and injuries are recorded and reported
- ensure all trip documentation is returned to the place of business.

DUTY STATEMENT

Snorkelling lookout

The lookout is responsible for scanning the site while snorkellers and divers are in the water, monitoring the location of all participants, identifying people in difficulty or distress and initiating a rescue.

They report to the dive/snorkelling supervisor.

Competency

The lookout must:

- be at least 18 years old
- maintain a level of fitness so that they are able to undertake their duties without risk to their own or anyone else's health and safety
- have experience diving or snorkelling at all designated sites and be aware of environmental conditions at the site
- have training in being a lookout and in the supervision of people in water.

Duties and responsibilities

The lookout is responsible for ensuring the implementation of relevant control measures, as detailed in the standard operating procedures.

Duties and responsibilities include:

- to work as a team and consult with other workers
- to assist other workers as required, including rescue and first aid
- to be positioned in an elevated position where they can see the entire site
- to request assistance if needed
- to be solely engaged in being the lookout whenever people are in the water unless engaged in an emergency response
- the lookout shall wear distinctive brightly coloured clothing and be equipped with binoculars, polarised sun glasses and communications equipment so that effective communication can be made with the snorkelling supervisor and people in the water
- recognise and report relevant hazards (e.g. changing conditions) to the snorkelling supervisor
- identify people in difficulty or distress
- to act as rescuer and first aid provider if required (see separate duty statements)
- scan the area effectively and efficiently to observe all snorkellers and divers
- alert divers and snorkellers moving outside the designated site
- provide higher levels of supervision to participants assessed by the snorkelling supervisor as being at-risk.

SNORKEL WORKER ASSESSMENT

Answer the following questions on the attached paper. Ensure your answers are numbered and that your name and date is put on each answer sheet. Candidates should have access to the relevant legislation, standard operating procedures and training support guide for snorkelling workers.

All questions must be answered correctly for a competent assessment result.

Time allowed: Two hours

- 1 What legislation covers the health and safety of recreational snorkellers at a business or undertaking?
- 2 What specific duties do workers have under this legislation?
- 3 Where can you find a copy of the legislation at work?
- 4 List three roles to be undertaken by snorkel workers that are needed for snorkelling safety. Which of these duties apply to your work?
- 5 List three qualifications that could help demonstrate the competence of a snorkel worker.
- 6 Describe the main demographic features of snorkelling customers of your business. Consider age, gender, nationality and experience.
- 7 What types of snorkellers are most at risk and why? List at least three categories.
- 8 How do you identify and assess at-risk snorkellers?
- 9 What are the four key safety messages to reinforce when giving advice to at-risk snorkellers?
- 10 How can increased supervision be provided for at-risk snorkellers? List at least two methods.
- 11 How can you provide safety advice to people from non-English speaking backgrounds?
- 12 When assessing the conditions at a snorkelling site, what are three important conditions to note?
- 13 List five ways in which your snorkelling operation could be modified in poor environmental conditions.
- 14 List four actions that should be undertaken to prepare a snorkel site for use.
- 15 What are at least two risks caused by supplying customers with poorly fitting snorkelling equipment?
- 16 Consider the flotation devices you supply. How can you encourage at-risk snorkellers to use these devices?
- 17 You see an at-risk snorkeller entering the water without a buddy. List three ways you can provide increased supervision for this snorkeller.
- 18 List five tasks normally undertaken by your snorkelling supervisor.
- 19 List 10 ways in which the lookout's scanning can be made more effective.
- 20 Guided snorkelling tours are an excellent way of providing close supervision. Does a guided snorkel tour need to have a lookout as well? Discuss.
- 21 Consider your snorkelling emergency plans, what is the best way to ensure that these plans can be actioned efficiently and effectively?
- 22 List two actions that should be undertaken once snorkelling has finished at the snorkelling site.
- 23 Consider your work procedures for ensuring no persons are left behind; describe a way in which this system might fail and how your actions might prevent this occurring.
- 24 List three ways to reduce the likelihood of vessel and snorkeller incidents used at your workplace.
- 25 What types of snorkeller are most at risk from hypoxic blackout and why?
- 26 List three ways in which the risks of hypoxic blackout might be controlled.
- 27 Consider some of the most common marine stinger risks a snorkeller may receive at your workplace. What is the appropriate first aid?
- 28 List five signs that a snorkeller might be stressed and liable to panic. What should you do if you observe these?
- 29 Consider needing to move an unconscious snorkeller from the water at your business. What considerations, if any, should be given to the design of the entry and exit point?

PRACTICAL ASSESSMENT

Lookout scanning techniques

Evaluate the effectiveness of the lookout's scanning techniques by watching them during normal duties. Record comments and ratings against the stated criteria. Ratings should be reviewed and addressed as required with the lookout.

Assessor name _____

Lookout name _____

Date/Location _____

Criteria	Comments	Good	Adequate	Poor
1	An elevated and distraction free location			
2	Wearing brightly coloured or distinctive clothing			
3	Equipped with binoculars and polarised sunglasses			
4	Moving the head while scanning, not just the eyes			
5	Scanning consciously using patterns and zones to cover the whole snorkelling area at least once every 60 seconds			
6	Changing scanning patterns periodically			
7	Looking into the water as well as on the surface for snorkellers			
8	Focus on individuals, checking them off for movement or signs of distress			
9	Giving greater attention to at-risk snorkellers and environments (e.g. down current or at the limits of the snorkelling area)			
10	Sit, stand and walk while scanning			
11	Take breaks and rotate duties after a maximum of 60 minutes			
12	When handing over lookout duties, ensure relevant information is passed on to the new lookout			
13	Avoiding overheating and dehydration, with good UV protection			
14	Avoiding boredom and drowsiness (e.g. staying cool, moving around and rotating duties)			
15	<p>Arrange for a snorkeller simulating unconsciousness or a small distinctive object, like a red tennis ball, to be displayed in the snorkelling area and time how long it takes the lookout to notice</p> <p>Good: Identifying the ball in less than 10 seconds Adequate: Between 11 and 60 seconds Poor: More than 60 seconds requires immediate action and investigation</p>			

ASSESSMENT RESULTS

Lookout scanning techniques

Comments

Provide constructive feedback including outstanding areas and room for improvement...

Areas for improvement

Include areas that require either urgent or moderate training...

Action plan

Include training details, corrections required, date of reassessment...

Lookout

Signed: _____

Date: _____

Supervisor

Signed: _____

Date: _____

SNORKELLER ASSESSMENT

Name _____ Age _____

Address _____

Emergency contact name, phone number and address _____

Please rate your current level of fitness and snorkelling experience (please circle)

Swimming ability.....POOR / AVERAGE / GOOD

Snorkelling ability.....POOR / AVERAGE / GOOD

Fitness.....POOR / AVERAGE / GOOD

	Yes	No
Are you nervous about snorkelling today?		
Have you snorkelled in similar sea conditions?		
Are you intending to breath-hold dive? For example, holding your breath for extended periods of time whilst diving under the surface.		
Are you suffering from any medical conditions that may be made worse by exertion? For example heart conditions, asthma, some lung diseases. If yes, please list:		
Are you suffering from any condition that may affect your consciousness? Examples include epilepsy and diabetes. If yes, please list:		
Are you suffering from asthma that can be brought on by cold water or salt water mist?		
Are you taking any prescribed medications, other than oral contraceptives? If yes, please list:		
Do you smoke?		
Are you overweight?		

Snorkelling supervisor to complete

List other risk factors displayed by participant (nervousness, obesity etc).....

Is the participant able to understand information and advice provided?.....YES / NO

Is the snorkeller 'at risk'? (If yes, highlight risk factors from list above).....YES / NO

Specific risks and controls explained to snorkeller and recorded on snorkel plan?.....YES / NO

Tick relevant controls:

- Identification of snorkeller
- Buddy
- Flotation device
- Guided tour
- Staying close to supervision
- Other (list) _____

SNORKEL PLAN

1/2

To be completed by the snorkelling supervisor.
This document should remain at the snorkelling site and then be returned for review and archiving at the business premises.

Date _____

Location/s and vessel (if applicable)

Organisation

Snorkelling supervisor _____

Lookout/s _____

Rescuer/s _____

First aid provider/s _____

Snorkel guide/s _____

Snorkeller assessment: **Have all snorkellers been assessed?**

At-risk snorkeller name	Risk factor/s	Additional control measure/s

Environmental conditions and assessment

Conditions	Site 1	Site 2
Water depths (m)		
Temperature (°C)		
Surface conditions		
Currents (strength and direction)		
Hazardous marine creatures		
Other vessels		
Other hazards		

Environmental hazard	Specific risk factor	Additional control measure/s
<i>eg. Current</i>	<i>Moderate SE current</i>	<i>Deploy mermaid lines from vessel. All snorkellers in guided groups.</i>

SNORKEL PLAN

2/2

Preparation checklist

Checklist	Yes	No	Comments
Clean and serviceable snorkelling equipment checked, with appropriate sizes and spares			
Necessary documentation such as waivers, incident reports, standard operating procedures and emergency plans on hand			
Rescue equipment, first aid kit, oxygen equipment, communications and emergency plans checked			
Advice and instruction given to all snorkellers			
Non-English speakers identified and given appropriate advice			

Count of all persons on board

Stage	Count 1	Count 2	Initials	Verifying signature
Initial departure				
Departure – Site 1				
Departure – Site 2				

On-site checklist (tick when complete, add comments)

Checklist	Complete	Comments
Emergency equipment (rescue and first aid) ready for immediate use		
Communications system working		
The lookout is in position and equipped to scan the snorkel site effectively		
Ongoing assessment of snorkellers for water skills, health issues, nervousness, inappropriate behaviours and breath-hold diving		
Entry and exit points are safe to use		
Rescue tender, markers, 'A' flag, lines and floats deployed		
Lookout duties rotated when required		
Snorkel tours conducted		

Post snorkel (tick when complete, add comments)

Checklist	Complete	Comments
Counts of all persons on board complete		
Monitor snorkellers for any illness or injuries		
All equipment checked, cleaned and stored		
Records completed and returned as required		
Additional hazards noted or control measures not adequate		

This snorkel plan has been completed by(snorkelling supervisor) **on**.....(date)

For more information
visit safework.sa.gov.au or
phone **1300 365 255**



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